PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

International application No. International filling date (day/month/year) (Earliest) Priority Date (day/month/year) PCT/IB2005/002828	Applicant's or agent's file reference	FOR FURTHER ACTION as we	see Form PCT/ISA/220 ell as, where applicable, item 5 below.
PCT/IB2005/002828 O4/08/2005 19/08/2004 Applicant TOYOTA JIDOSHA KABUSHIKI KAISHA This International Search Report has been prepared by this international Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the international Bureau. This International Search Report consists of a total of	N . 94846		(Earliest) Priority Date (day/month/year)
Applicant TOYOTA JIDOSHA KABUSHIKI KAISHA This international Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the international Bureau. This international Search Report consists of a total or	••		
This international Search Report has been prepared by this international Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international Search Report consists of a total of	PCT/IB2005/002828	04/08/2005	19/08/2004
This International Search Report has been prepared by this International Bureau. This International Search Report consists of a total of	Applicant		
This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This International Search Report consists of a total of	TOVOTA IIDOCUA KARIICHIKI	KATSHA	
according to Article 18. A copy is being transmitted to the International Bureau. This International Search Report consists of a total of sheets. It is also accompanied by a copy of each prior art document cited in this report. 1. Basis of the report a. With regard to the language, the international search was carried out on the basis of the International application in the language in which it was filled, unless otherwise indicated under this item. The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I. Certain claims were found unsearchable (See Box II). 3. Unity of invention is lacking (see Box III). 4. With regard to the title, X the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings, a. the figure of the drawings, be published with the abstract is Figure No	TOTOTA SIDOSAA KABOSHIKI A	AISIR	
It is also accompanied by a copy of each prior art document cited in this report. 1. Basis of the report a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I. Certain claims were found unsearchable (See Box III). 1. Unity of invention is lacking (see Box III). 4. With regard to the title, The text is approved as submitted by the applicant. The text has been established by this Authority to read as follows: 5. With regard to the abstract, The text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority, within one month from the abstract is Figure No. 1 A the figure of the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 as suggested by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because the figure better characterizes the invention.	This International Search Report has bee according to Article 18. A copy is being to	n prepared by this International Searching At ansmitted to the International Bureau.	uthority and is transmitted to the applicant
1. Basis of the report a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filled, unless otherwise indicated under this item. The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I. Certain claims were found unsearchable (See Box II). Unity of invention is lacking (see Box III). 4. With regard to the title, I the text has been established by the applicant. the text has been established by this Authority to read as follows: The text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one morth from the date of mailing of this international search report, submit comments to this Authority. With regard to the drawings. a. the figure of the drawings to be published with the abstract is Figure No. 1 Sa suggested by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	This International Search Report consists	of a total of sheets.	
a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I. Certain claims were found unsearchable (See Box II). Unity of invention is lacking (see Box III). Unity of invention is lacking (see Box III). With regard to the title, the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: With regard to the abstract, the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because the applicant failed to suggest a figure.	X It is also accompanied by	a copy of each prior art document cited in the	nis report.
a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I. Certain claims were found unsearchable (See Box II). Unity of invention is lacking (see Box III). Unity of invention is lacking (see Box III). With regard to the title, the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: With regard to the abstract, the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailling of this international search report, submit comments to this Authority. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because the applicant failed to suggest a figure.			
this Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No.1. Certain claims were found unsearchable (See Box II). Unity of invention is lacking (see Box III).	a. With regard to the language, the	international search was carried out on the bless otherwise indicated under this item.	pasis of the international application in the
2. Certain claims were found unsearchable (See Box II). 3. Unity of invention is lacking (see Box III). 4. With regard to the tittle,			nslation of the international application furnished to
3. Unity of invention is lacking (see Box III). 4. With regard to the title, X the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: 5. With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	b. With regard to any nucle	otide and/or amino acid sequence disclose	ed in the international application, see Box No. I.
4. With regard to the title, X	2. Certain claims were fou	ind unsearchable (See Box II).	
the text is approved as submitted by the applicant. the text has been established by this Authority to read as follows: X	3. Unity of invention is lac	cking (see Box III).	
the text has been established by this Authority to read as follows: With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	4. With regard to the title ,	1 ·	
5. With regard to the abstract, X the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	X the text is approved as s	ubmitted by the applicant.	
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	the text has been establi	shed by this Authority to read as follows:	•
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	ļ		
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.			
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	1		•
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.		·	
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	" -	·	
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.			
the text is approved as submitted by the applicant. the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings, a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.			
the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings , a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	5. With regard to the abstract,		_
may, within one month from the date of mailing of this international search report, submit comments to this Authority. 6. With regard to the drawings , a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	X the text is approved as s	ubmitted by the applicant.	
6. With regard to the drawings , a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	the text has been establi may, within one month fr	shed, according to Rule 38.2(b), by this Auth om the date of mailing of this international se	ority as it appears in Box No. IV. The applicant earch report, submit comments to this Authority.
a. the figure of the drawings to be published with the abstract is Figure No. 1 X as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	6 With recard to the drawings	`	
as suggested by the applicant. as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.	_	published with the abstract is Figure No. 1	<u></u>
as selected by this Authority, because the applicant failed to suggest a figure. as selected by this Authority, because this figure better characterizes the invention.			
as selected by this Authority, because this figure better characterizes the invention.		• •	suggest a figure.
		• • • • • • • • • • • • • • • • • • • •	

INTERNATIONAL SEARCH REPORT

International Application No PCT/IB2005/002828

A. CLASSIFICATION OF SUBJECT MATTER F01L9/04 According to International Patent Classification (IPC) or to both national classification and IPC Minimum documentation searched (classification system followed by classification symbols) Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Relevant to daim No. Category ° DE 199 55 054 A1 (LEIBER, HEINZ) 1 Α 17 August 2000 (2000-08-17) column 1, lines 3,4 column 4, lines 59-66 column 6, lines 54-61 figures 8a-8e DE 102 03 262 A1 (LEIBER, HEINZ) 1 A 31 July 2003 (2003-07-31) paragraph '0018! figures 1,2 FR 2 792 451 A (RENAULT) Α 20 October 2000 (2000-10-20) page 1, lines 3-10 page 5, line 4 - page 6, line 10 page 8, lines 3-8 figures 1-3 Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the 'A' document defining the general state of the art which is not considered to be of particular relevance invention earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone 'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another "Y" document of particular relevance; the claimed invention citation or other special reason (as specified) cannot be considered to involve an inventive step when the document is combined with one or more other such docudocument referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled document published prior to the international filling date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 16 January 2006 31/01/2006 Authorized officer Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Paquay, J Fax: (+31-70) 340-3016

3

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2005/002828

C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	101/102003/		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	A	elevant to claim No.	
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 08, 6 October 2000 (2000-10-06) & JP 2000 130123 A (DENSO CORP), 9 May 2000 (2000-05-09) cited in the application abstract; figures 1-3		1,5,7	
Α	DE 199 18 993 A1 (DAIMLERCHRYSLER AG) 28 September 2000 (2000-09-28) column 1, lines 3-5 column 5, line 58 - column 6, line 21 column 7, line 50 - column 8, line 17 figures 1,4,5		1,5,7	
A	EP 0 915 319 A (ISUZU CERAMICS RESEARCH INSTITUTE CO., LTD) 12 May 1999 (1999-05-12) paragraph '0001! paragraph '0026! paragraph '0029! paragraph '0031! paragraph '0033! figures 1-3		1,5,7	
			•	
-				
			_	

3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No PCT/IB2005/002828

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
DE 19955054	A1	17-08-2000	NONE		
DE 10203262	A1	31-07-2003	NONE		
FR 2792451	Α	20-10-2000	NONE	·	
JP 2000130123	Α	09-05-2000	NONE		
DE 19918993	A1	28-09-2000	NONE		
EP 0915319	Α	12-05-1999	JP	11142103 A	28-05-1999